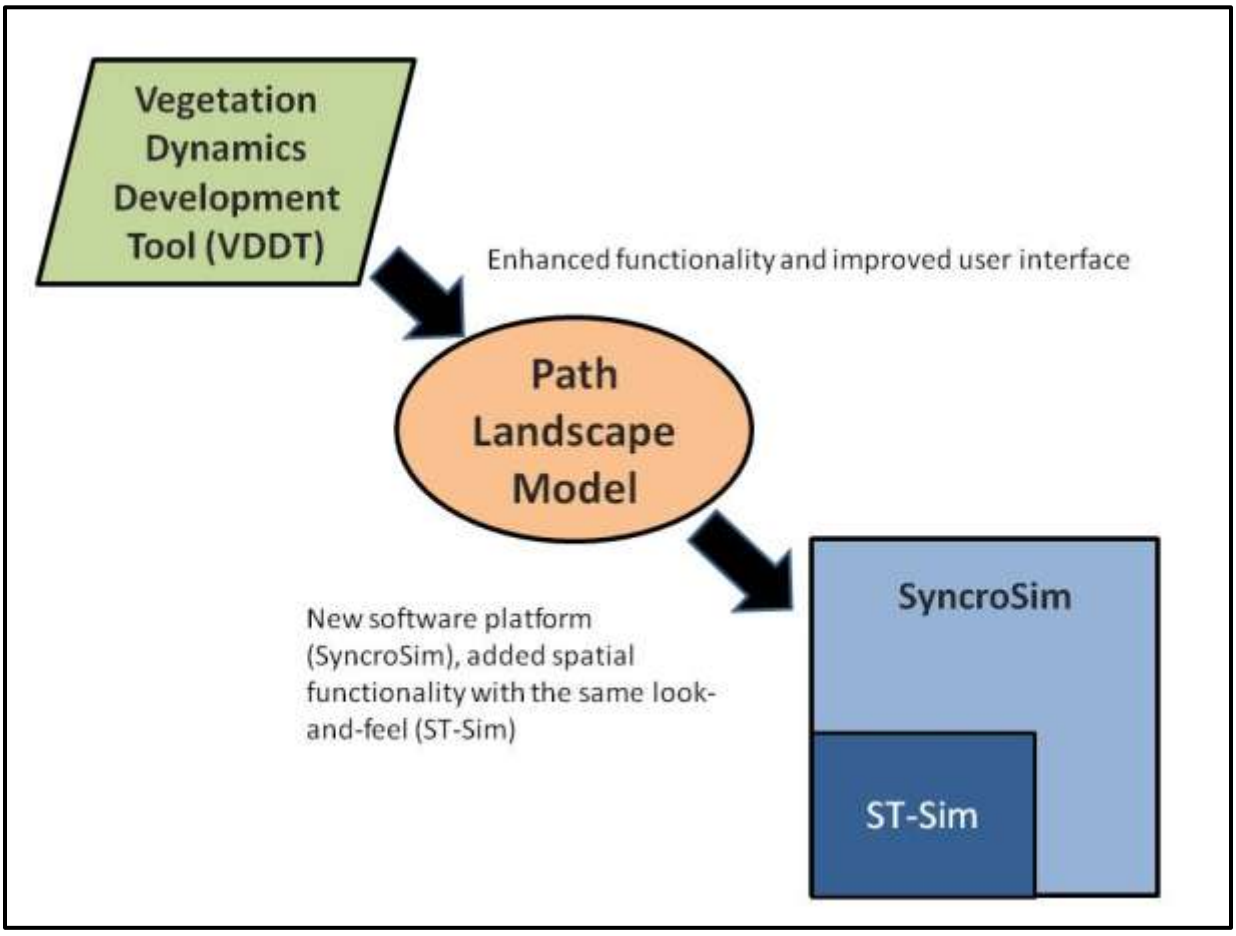
LANDFIRE State-and-Transition Modeling Software Evolution

VDDT

Over the course of the LANDFIRE Project and LANDFIRE Program, the software system used to create Vegetation Models evolved significantly and even changed names through multiple patches, updates and versions. Those familiar with LANDFIRE vegetation models will recall that the models were originally created in the file-based Vegetation Dynamics Development Tool (VDDT). In the middle of the LANDFIRE Project, the structure of VDDT was modified to utilize Microsoft Access as the data source with minor changes to the appearance of the software. The VDDT name was retained after this significant upgrade.



Path Landscape Model

A few years ago, a major change in the architecture, functionality and look-and-feel of the VDDT vegetation modeling environment created the need to rename VDDT to the “Path Landscape Model” and clearly distinguish it from its predecessors. This was a significant change in how the system appears to the user, and included entirely new capabilities such as the ability

to run multiple models on a landscape simultaneously and to transition from one model to another—additions frequently requested and highly anticipated by the user community. A user should expect to need time to become familiar with the new user interface and functionalities, but the foundation of Path remains the same—strata (Biophysical Settings [BpS] in LANDFIRE), state classes, succession, and disturbances.

ST-Sim

In 2012, the next major, evolutionary advance in state-and-transition vegetation modeling was rolled out by Apex Resource Management Solutions, called "ST-Sim." ST-Sim has been implemented as a module within a broader, generic simulation modelling framework called "SyncroSim." ST-Sim can be thought of as an upgrade to Path with additional spatial capabilities. ST-Sim will optionally ingest, utilize, and output spatial information as desired and provided by the user. The user interface and functionality of ST-Sim is very similar to Path with additional spatial elements exposed to the user when desired. If a user is familiar with the Path interface and functionality, all that will be required is to learn the new spatial modeling options.

Recommendation

ST-Sim effectively replaces Path and VDDT; while ST-Sim continues to be actively developed and extended, software development for Path and VDDT has been discontinued. Users planning to review, revise, and apply LANDFIRE dynamic vegetation models should move to the ST-Sim platform when possible, whether or not they plan to utilize the new spatial functions available in ST-Sim. LANDFIRE models are currently in their native VDDT format, but can be imported into ST-Sim. ST-Sim can be downloaded and installed from the Apex RMS website (www.apexrms.com/stsm).